(filed)

R-585-5-9-5

SITE INSPECTION OF
LAUREL PIPELINE COMPANY
PREPARED UNDER

TDD NO. F3-8809-21
EPA NO. PA-953
CONTRACT NO. 68-01-7346

FOR THE

HAZARDOUS SITE CONTROL DIVISION
U.S. ENVIRONMENTAL PROTECTION AGENCY

NOVEMBER 9, 1989

NUS CORPORATION
SUPERFUND DIVISION

SUBMITTED BY	REVIEWED BY	APPROVED BY
(b) (4) [redacted]		

(b)
(4)

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ORIGINAL (Red)

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SECTION 1

1.0 INTRODUCTION

1.1 Authorization

NUS Corporation performed this work under Environmental Protection Agency Contract No. 68-01-7346. This specific report was prepared in accordance with Technical Directive Document No. F3-8809-21 for the Laurel Pipeline Company site, located in Aliquippa, Beaver County, Pennsylvania.

1.2 Scope of Work

NUS FIT 3 was tasked to conduct a site inspection of the subject site.

1.3 Summary

The site is located in a rural area of Aliquippa, Beaver County, Pennsylvania. The Laurel Pipeline Company, Aliquippa site, consists of a 214.023-acre, inactive gasoline tank farm that was in operation from 1959 until 1983. The site utilized 13 storage tanks with capacities exceeding 1 million gallons and a utility tank with a capacity of approximately 0.5 million gallons. Various petroleum products, including leaded gasoline, No. 2 fuel oil, and kerosene, were stored in the tanks at one time. When the product in the tank was going to be changed, or repairs were needed, the tank was first emptied and cleaned. From 1963 until 1977, any sludge removed from the bottom of the tanks was either buried or surface-applied within the diked areas surrounding each tank. However, on one occasion, sludge was buried immediately outside the tank area. From 1977 until 1983, the Laurel Pipeline Company had the sludge transported off site for disposal.

The site ceased operations in 1983. The tanks were emptied, and the pipelines through which petroleum products were pumped were purged with nitrogen. The site was sold to Consolidated Natural Gas (CNG) Transmission Corporation, a subsidiary of CNG Company, Incorporated, in December 1986 and is currently inactive. CNG Energy Company, also a subsidiary of CNG Company, Incorporated, currently has an option to purchase the property and plans to utilize the tank farm for the storage of jet fuel. In 1987, CNG Transmission Corporation disassembled two of the above-ground storage tanks and removed them from the site.

All surface runoff from the site, including drainage from the diked areas around the tanks, is routed to a collection pond located west of the storage tanks. Drainage from the dikes is controlled by valves located at the outlets. Water from this pond is released into an intermittent stream through an NPDES-permitted outfall. The intermittent stream flows into a tributary of Raccoon Creek. There have been no known violations of this permit to date.

(b) (9) [redacted]

(b) (9) [redacted]

On January 18, 1989, NUS FIT 3 conducted a site inspection at the subject site. Activities included sampling on-site and off-site soils, sediment, surface water, and groundwater. The results of sampling of areas of petroleum waste application, as shown in section 7.0 and discussed in section 8.0, have revealed notable levels of pentachlorophenol (PCP), the polyaromatic hydrocarbon (PAH) 2-methylnaphthalene, and bis(2-ethylhexyl) phthalate, as well as antimony, arsenic, cadmium, and cyanide. A groundwater sample (home well) showed a trace level of arsenic.

A Quality Assurance Review and a Toxicological Evaluation of the samples collected by the FIT can be found in sections 7.0 and 8.0, respectively.

SECTION 2

2.0 THE SITE

2.1 Location

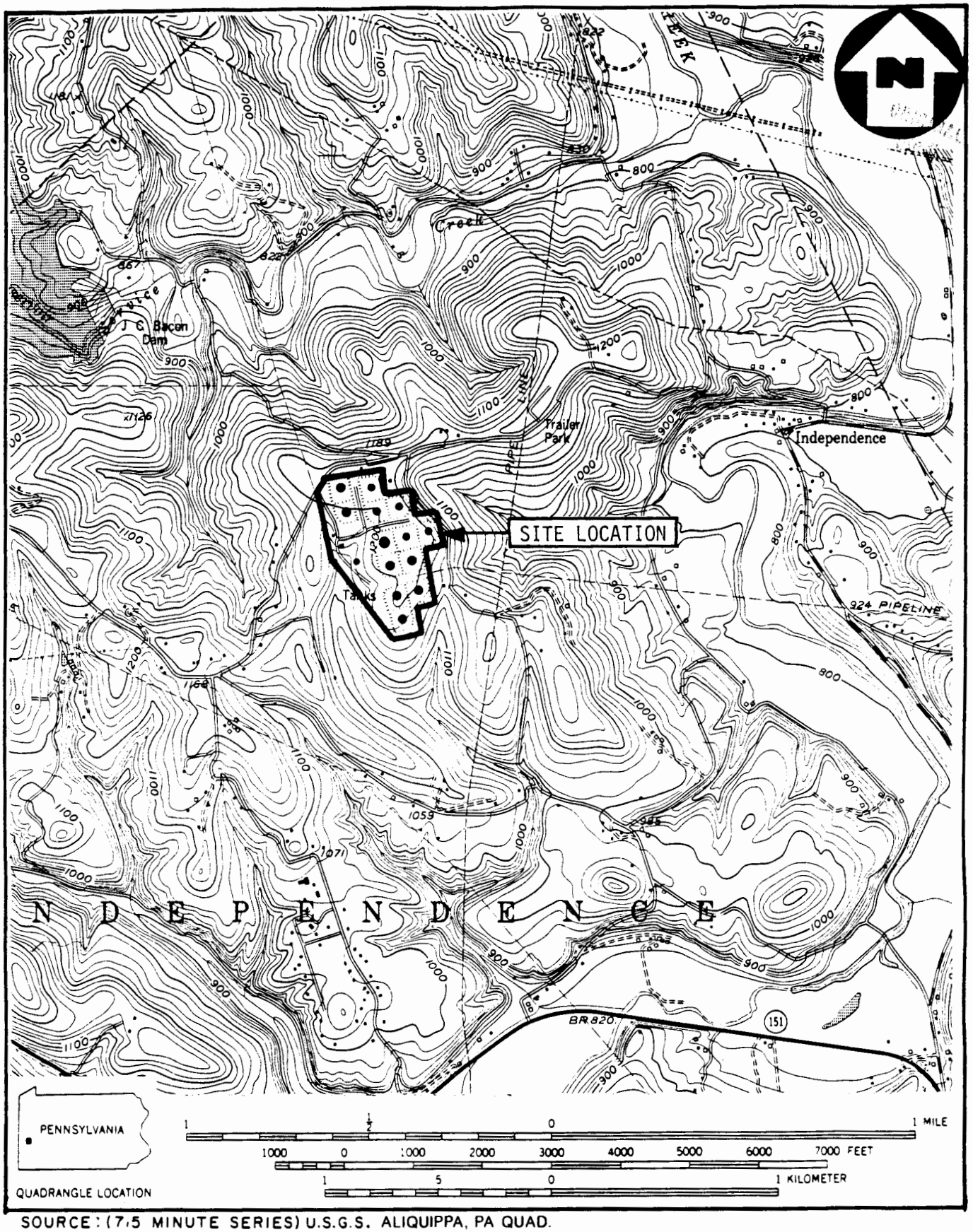
The Laurel Pipeline Company, Aliquippa Station, is located on Tank Farm Road in Beaver County, Aliquippa, Pennsylvania (see figure 2.1, page 2-2). The coordinates for the site are 40° 34' 00" north latitude and 80° 19' 50" west longitude. The site is located 9-7/8 inches south and 10-3/4 inches west of the northeastern corner of the United States Geological Survey (U.S.G.S.) Aliquippa, Pennsylvania quadrangle, 7.5 minute series topographic map.[1]

2.2 Site Layout

The Laurel Pipeline Company, Aliquippa Station, occupies 214,023 acres and can be accessed via an entrance road situated off Tank Farm Road. However, this entrance is blocked by a gate that can only be opened using an access card or key. Upon entering the site, several tanks are located on the left (eastern) side of the entrance road. This road leads to the station house and the maintenance building, approximately 150 feet south of entrance gate. The site houses 13 tanks. Each tank is contained in an unlined, diked area (see figure 2.2, page 2-3).[2,3]

A drainage system, designed to collect all surface runoff, as well as any open-dike drainage, is routed to a collection pond located approximately 150 feet west of the station and outside the main fenced area. The diked area surrounding the tanks is known to hold 1-1/2 times the volume of the tanks. These diked areas were used to either bury or surface spread the sludge that was removed from the tanks.[2] The disposal area of the one known burial area outside the dike walls is approximately three by eight feet. Its depth is unknown.[2,3]

The site is located at the top of a hill; the elevation is between 1,000 and 1,100 feet. The entire area surrounding the site is rural, agricultural and sparsely populated.[1]



SOURCE: (7.5 MINUTE SERIES) U.S.G.S. ALIQUIPPA, PA QUAD.

FIGURE 2.1

SITE LOCATION MAP

LAUREL PIPELINE - ALIQUIPPA STATION, ALIQUIPPA, PA

SCALE 1: 24000

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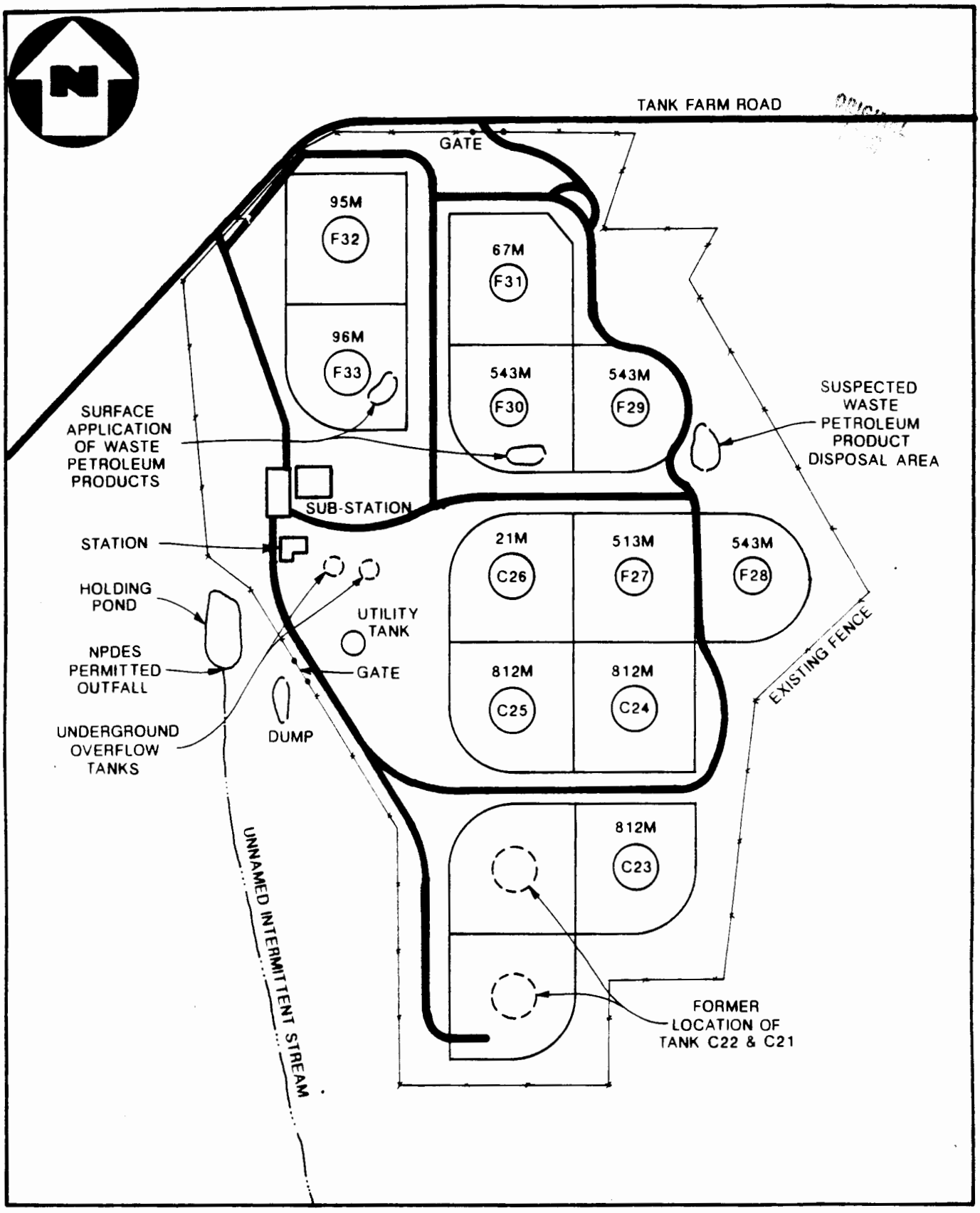


SOURCE: MAP SUPPLIED BY LAUREL PIPELINE CO.

FIGURE 2.2

SITE SKETCH

LAUREL PIPELINE - ALIQUIPPA STATION, ALIQUIPPA, PA

(NO SCALE)

NUS CORPORATION

2.3 Ownership History

Prior to 1957, the subject site was divided into two parcels. Paul Stietler owned approximately 143 acres, according to Brian Jury, of the Laurel Pipeline Company. Approximately 77 acres were owned by Mr. and Mrs. Joseph Telecz. Both parcels were purchased by Laurel Pipeline Company on November 22, 1957. Stockholders of Laurel Pipeline Company include Gulf Oil, Texaco, and BP Ohio. Operation of the site began in 1959 and ended in 1983. In December 1986, the site was sold to CNG Transmission Corporation, a subsidiary of CNG Company, and is currently not in use. CNG Energy Corporation, also a subsidiary of CNG, had planned to purchase the subject site in January 1989, but as of the writing of this report, the property was owned by CNG Transmission Corporation.[2,4]

2.4 Site Use History

The subject site was utilized as farmland until 1957, when the Laurel Pipeline Company purchased the property. Tank farm construction began immediately, and the plant was operating by March 23, 1959.[2]

The Laurel pipeline was used to pump petroleum products from the Delaware state line to Ellswood, Ohio. The pipeline measures 24 inches in diameter from the Delaware state line to Mechanicsburg, Pennsylvania. A 20-inch-diameter line runs from Mechanicsburg to Duncansville, Pennsylvania, near Altoona. The petroleum product is then pumped via an 18-inch-diameter line to the Aliquippa Station (subject site). The remainder of the line to Ellswood, Ohio is 14 inches in diameter.[2]

On July 1, 1983, the Laurel Pipeline Company ceased all operations, including the pumping of gas to Ohio. The 13 gasoline tanks located on the site were emptied, and all lines to the site (Aliquippa Station) were purged with nitrogen. The subject site remained idle for the next three years.[2]

In December 1986, the subject site was purchased by CNG Transmission Corporation. In 1987, CNG Transmission Company dismantled two of the above-ground storage tanks and removed them from the site. In January 1989, two underground storage tanks were drained at the request of the Pennsylvania Department of Environmental Resources (PA DER). The site is currently inactive.[2,4]

2.5 Permit and Regulatory Action History

The Laurel Pipeline Company holds an NPDES permit (no. 0043125) for the discharge from the collection pond into an intermittent stream and tributary. The tributary eventually discharges into Raccoon Creek. Currently, there is no knowledge of any past regulatory action against the subject site.[2,4]

2.6 Remedial Action to Date

On January 11, 1989, at the request of PA DER, two underground storage tanks (sump and skimmer tanks) were drained. This request was initiated when FIT 3, accompanied by Jeffrey Jones, of PA DER, observed the opening of these tanks, resulting in an overflow and spillage onto the surrounding soil.[3,4] No other remedial action has been taken at the site.[2,4]

SECTION 3

3.0 ENVIRONMENTAL SETTING

3.1 Water Supply

(b) (9)

[redacted]

3.2 Surface Waters

All surface drainage runoff is routed to a holding pond in the southwestern corner of the site. The holding pond discharges into an unnamed tributary adjacent to the site. This unnamed tributary flows to the south-southeast into another unnamed tributary, approximately 0.7 stream mile from the holding pond. From the confluence of the 2 unnamed tributaries, the distance to the confluence with Raccoon Creek, approximately 5,500 feet east of the Laurel Pipeline Company site, is 1.7 stream miles. The unnamed tributaries and Raccoon Creek are classified as habitats for warm-water fishes. This includes the maintenance and propagation of fish species and additional fauna and flora that are indigenous to a warm-water habitat.[1,2,3,8]

There are more than five acres of wetlands located within the study area and downstream of the facility.[9]

(b) (9) [redacted]

3.3 Hydrogeology

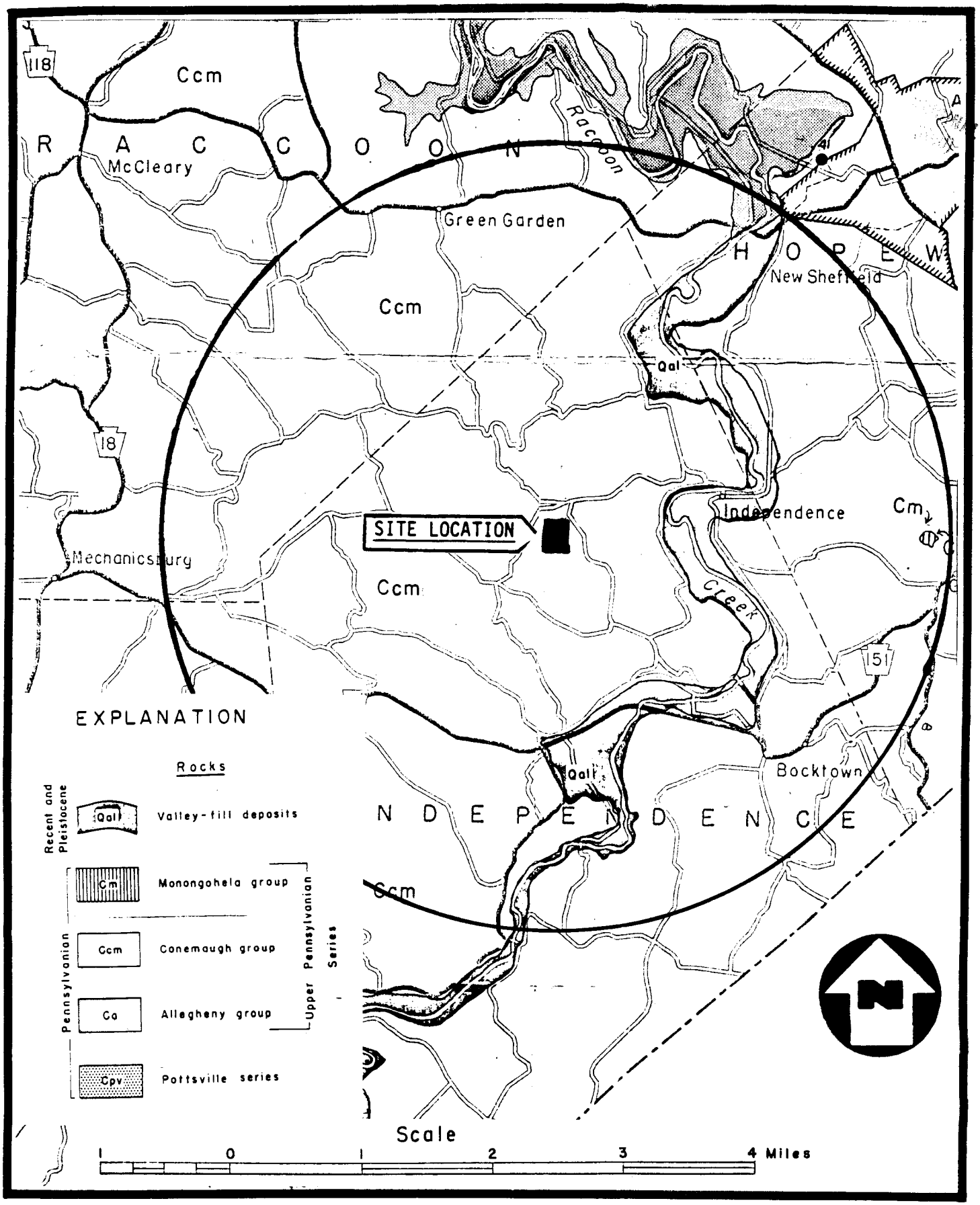
The geologic and hydrogeologic conditions in the study area were researched as part of the site inspection. A preliminary literature review was conducted to determine surface and subsurface geologic conditions, soil character, and the status of groundwater transport and storage.

3.3.1 Geology

The Laurel Pipeline site lies within the Pittsburgh Plateaus Section of the Appalachian Plateaus Physiographic Province. This section is characterized by nearly flat-lying to gently folded strata, which have been maturely dissected by stream erosion. The drainage patterns are predominantly dendritic. There are no major structural features mapped in the study area.[10,11,12]

The bedrock beneath the site is mapped as the Pennsylvanian age Conemaugh Group (see figure 3.1, page 3-3). The Conemaugh Group consists of the Casselman Formation and the underlying Glenshaw Formation. The Conemaugh consists predominantly of shale and coarse sandstone with thin beds of limestone and locally present coal. The lithology is extremely variable, so sandstone is superceded by shale both laterally and vertically within short distances. The coal and limestone beds are thin and not persistent. The Ames limestone, which is the most persistent limestone in the group, is the marker bed for the top of the Glenshaw Formation. The stratigraphic thickness of the Conemaugh Group in Beaver County is approximately 520 feet.[10,11]

Quaternary age alluvium unconformably overlies the Conemaugh Group and fills the major stream and river valleys in the study area. The nearest mapped occurrence is located approximately 0.75 mile east of the site, along Raccoon Creek. The alluvium consists of unconsolidated clay- to gravel-size particles, which are locally stratified. The thickness of this unit, in the study area, is not documented, but it is thought to be thin.[10,11]



Source: Ground-Water Resources of Beaver County, Pennsylvania

Geologic Map: Laurel Pipeline site
Beaver County, Pennsylvania

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Figure: 3.1

The Pennsylvanian age Allegheny Group stratigraphically underlies the Conemaugh Group and is not mapped at the surface within the study area. The Allegheny Group consists of, in descending order, the Freeport Formation, the Kittaning Formation, the Vanport Limestone, and the Clarion Formation. The Freeport, Kittaning, and Clarion Formations consists of cyclic sequences of shale, sandstone, limestone, and underclay. The Vanport limestone is the most continuous limestone bed in the group and is used as a marker bed. The Allegheny Group is approximately 300 feet thick.[10,11]

3.3.2 Soils

The soil mantling the site is mapped as Urban land Arents Complex (see figure 3.2, page 3-5). Urban land is covered with parking lots, factories, and other structures that obscure or alter the natural soils, so that identification is not feasible. Arents consists of heterogeneous earthy material, rock fragments, and parts of other soils and is produced in areas where cuts and fills were made to reshape the land surface. Permeability, available water capacity, runoff, internal drainage, and soil reaction are highly variable in this mapping unit and are not quantified by the Soil Conservation Service's soil survey of Beaver County.[13] Evidence of reworked soils was noted by the FIT at the site.[3]

3.3.3 Groundwater

The Conemaugh Group, which comprises the uppermost aquifer underlying the site, is hydraulically connected to the adjacent units by a network of interconnected fractures. These fractures are also expected to be hydraulically connected to the pore spaces within the sand and gravel units within the alluvium. Wells within the Conemaugh Group in Beaver County range from 51 to 350 feet deep and average 112 feet deep. The median well yield for these wells is about five gpm.[10,11]

The alluvial deposits, where they obtain a sufficient thickness, are excellent sources of water. The median well yield for wells developed in the alluvium in Beaver County is 500 gpm. However, due to the inadequate thickness of these deposits in the site area, they remain unexploited.[10, 11]

The Allegheny Group, which is hydraulically interconnected to the overlying Conemaugh Group by a network of interconnected fractures, is capable of supplying moderate amounts of water to wells. The median well yield in Beaver County for wells producing from this formation is about 15 gpm. The median well depth is 105 feet. The salinity of the water within the bedrock increases with depth. Due to the rise in salinity, very few wells are drilled deeper than 200 feet below the surface.[10,11]

Source: Soil Survey of Beaver and Lawrence Counties, Pennsylvania

Soils Map: Laurel Pipeline site
Beaver County, Pennsylvania

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Figure: 3.2

Wells within Independence Township range from 33 to 230 feet and are open-hole constructed. The static water levels in these wells range from 15 to 160 feet below the surface. Well yields range from 0.1 to 70 gpm. The wells produce from the Allegheny and the Conemaugh Groups.[7]

There are more than five acres of wetlands within the three-mile radius of the site. These wetlands are hydraulically interconnected with the shallow bedrock of the rock units that underlie them and serve as discharge points for groundwater.[9]

There are no documented barriers to groundwater flow in the study area. Shallow groundwater beneath the site is expected to flow orthogonal to topographic contours, eventually discharging into local streams. Because the site is located on a topographic high, groundwater is expected to flow in almost every direction away from the site.[10,11]

3.4 Climate and Meteorology

Characterized by warm, humid summers with relatively mild winters, the site's total annual average precipitation, according to the National Oceanic and Atmospheric Administration, is 36.29 inches. The average winter temperature is 31.4°F, and the average summer temperature is 72.4°F. The Climatic Atlas of the United States gives a mean annual lake evaporation value of 28.50 inches, yielding a net precipitation of 7.79 inches. A 1-year, 24-hour rainfall will produce 2.25 inches of precipitation.[14]

3.5 Land Use

The site is surrounded by rural land, consisting mostly of scattered residential, open field, and farmland area. Raccoon State Park is located approximately 4,000 feet from the subject site.[1,2,3]

3.6 Population Distribution

Approximately 3,097 people live within a 3-mile radius of the site.

0- to 1-mile radius	(90 homes times 3.8 people) =	342
1- to 2-mile radius	(300 homes times 3.8 people) =	1,140
2- to 3-mile radius	(425 homes times 3.8 people) =	1,615
	Total =	3,097

The estimated number of homes was obtained by conducted a house count using the Aliquippa and Hookstown, Pennsylvania U.S.G.S. 7.5 minute series topographic maps.[1]

3.7 Critical Environments

No federally listed endangered species are expected to be found within the area of the site.[15]

SECTION 4

(Red)

4.0 WASTE TYPES AND QUANTITIES

The Laurel Pipeline Company's gasoline tanks were cleaned out only when repairs were necessary or when the products in the tank were going to be changed while the site was in operation. An estimated 45,360 gallons of leaded tank bottoms were disposed on site; although, these cases were infrequent. There appear to be no waste disposal records; however, the following information was gathered by Brian Jury, the Western District superintendent for the Laurel Pipeline Company.[2]

In keeping with the accepted disposal methods at the time, from 1963 until 1969, the sludge was buried on site, usually within the tank dike area. There is, however, one known burial location outside the dike walls. This area is approximately three by eight feet, with unknown depth. From 1969 until 1977, the tank sludge was applied within the tank dike area to promote aeration. In 1977, Laurel Pipeline Company ceased on-site disposal activities and began the transporting of sludge by AMO Pollution Service, in Canonsburg, Pennsylvania, for proper disposal.[2] No waste manifests for sludge disposal are available at this time.

The chemical make-up of the sludge is unknown.[2]

SECTION 5

5.0 FIELD TRIP REPORT

5.1 Summary

On Wednesday, January 18, 1989, FIT 3 members Robert J. Chappell, Thomas Bachovchin, Jean Mazzacone, Scott Coslett, and Michael McCarthy visited the Laurel Pipeline site in Aliquippa, Pennsylvania. FIT 3 was accompanied by Raymond J. Georges, of CNG Energy Company, and Ron Hoffman, an engineer from the Environmental Codes and Standards Department of CNG Transmission Corporation. The weather was mostly sunny, with temperatures in the low to mid-40s.

Six aqueous and seven solid samples were obtained. Split samples were provided to CNG Transmission Corporation (see figure 5.1, page 5-4). Photographs were taken on site (see figures 5.3 and 5.4, pages 5-7 and 5-8, and the photograph log, section 5.5).

Deviations from the Sampling Plan

An aqueous sample was added; it was taken from the intermittent stream, downstream of the outfall.

5.2 Persons Contacted

5.2.1 Prior to Field Trip

Raymond J. Georges
Manager
Resource Engineering and Development
CNG Energy Company
CNG Tower
Pittsburgh, PA 15222-3199
(412) 227-1213

Valerie Breznicky
Site Investigation Officer
U.S. EPA
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Philadelphia, PA 19107
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Jeffrey Jones
PA DER
Pittsburgh Regional Office
Highland Building
121 South Highland Avenue
Pittsburgh, Pa 15206-3988
(412) 846-2050

5.2.1. Prior to Field Trip (continued)

Maria Malave
Site Investigation Officer
U.S. EPA
841 Chestnut Building
Ninth and Chestnut Streets
Philadelphia, PA 19107
(215) 597-1110

5.2.2 At the Site

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Manager
Resource Engineering and Development
CNG Energy Company
CNG Tower
Pittsburgh, PA 15222-3199
(412) 227-1213

Ron Hoffman
Engineer
Environmental Codes and Standards Department
CNG Transmission Corporation
445 West Main Street
Clarksburg, West Virginia 26301
(304) 623-8546

5.2.3 Water Supply Well Information

The following off-site wells were sampled during the site inspection. For the locations of these wells,

(b) (9) [redacted]

(b) (9) [redacted]

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5.3 **SAMPLE LOG**

SITE NAME Laurel Pipeline

TRAFFIC REPORTS			SAMPLE IDENTIFIER	PHASE	SAMPLE DESCRIPTION	SAMPLE LOCATION	TARGET USE	pH	FIELD MEASUREMENTS
Organic	Inorganic	High Hazard							
CAC 79	MCY 225		S-1	Solid	Dark brown, coarse sandy material ON-SITE	72' From center of berm, 91' from tank outlet #F33	Access is restricted by a Fence		No HNU readings above background
CAC 80	MCY 226		S-2	Solid	Dark brown, coarse sandy material ON-SITE	116' From center of intersection of two berms, 135' From tank outlet #F30	Access is restricted by a Fence		"
CAC 81	MCY 227		S-3	Solid	Medium Brown, Fine grained material, slightly sandy ON-SITE	476" from tank berm #F29, 54'6" From Fence, 132'9" From Junction box	Access is restricted by a Fence		"
CAC 82	MCY 228		S-4	Solid	Muddy brown-gray clay like material ON-SITE	Taken at base of ladder between two tanks	Access is restricted by a Fence		"
CAC 83	MCY 229		S-5 (Background)	Solid	Light brown, sandy, silty loam OFF Site	Northeast corner of site between Fence & road; 20' from Fence 6' from guiderail	Open Access		"
CAC 84	MCY 230		SD-1	Solid	Rust-colored, Fine grained, very silty, dark brown; grayish towards bottom	Taken From NE corner of pond before hay bale dike separating pathway & pond	Open Access		"
CAC 85	MCY 231		SD-2	Solid	Dark-brown, much rust staining. Very gritty; coarse grain	30' South of NPDES Outfall	Open Access		"
CAC 93	MCY 238		SD-20 (Duplicate of SD 2)	Solid	Duplicate of SD-2	Duplicate of SD-2	Open Access		"
CAC 86	MCY 232		SW-1	Aqueous	Oily sheen	Taken From NE Corner of pond	Open Access		"

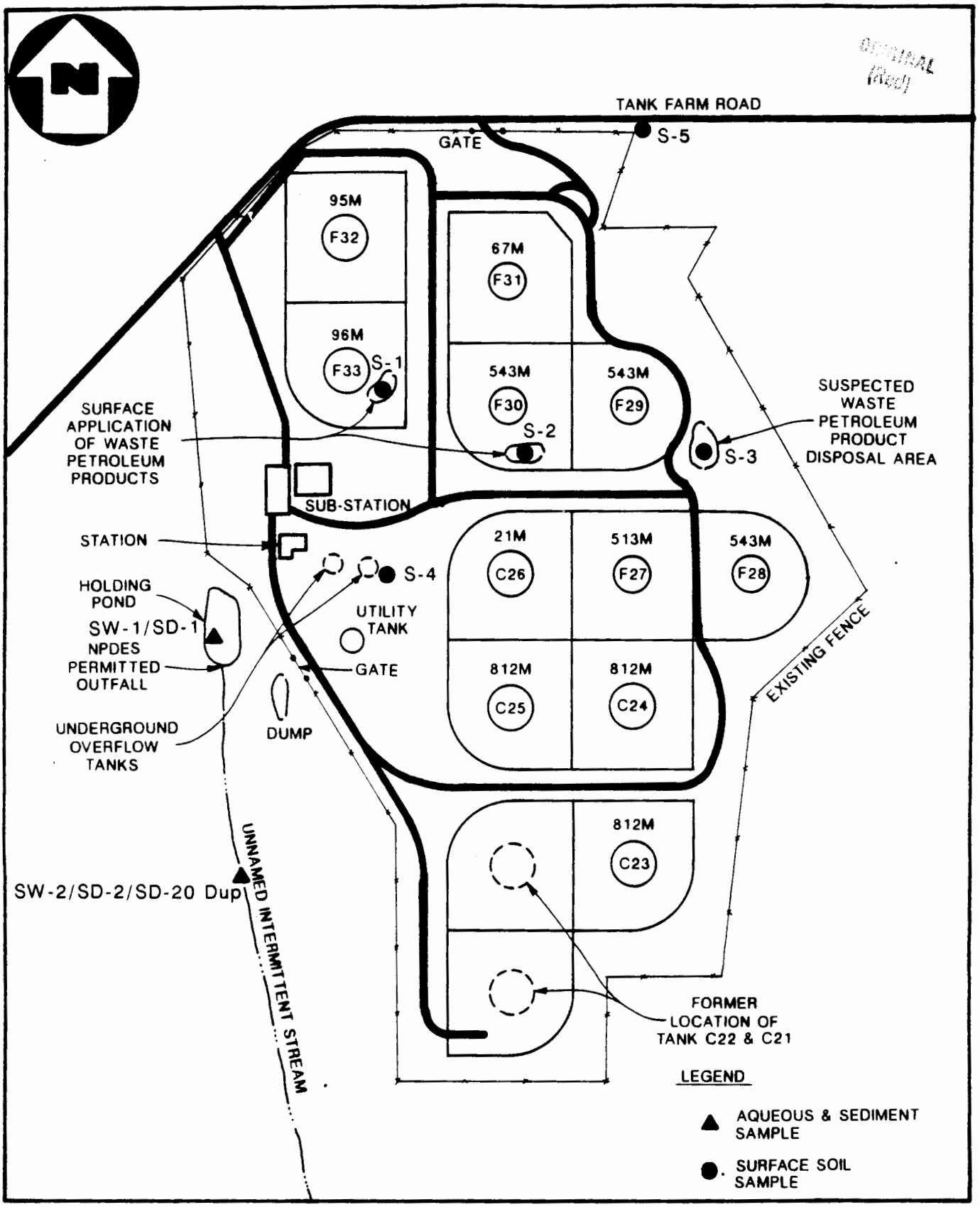
TDD NUMBER F3-8809-21

EPA NUMBER PA 953

5.3 **SAMPLE LOG**

SITE NAME Laurel Pipeline

TRAFFIC REPORTS Organic	Inorganic	High Hazard	SAMPLE IDENTIFIER	PHASE	SAMPLE DESCRIPTION	SAMPLE LOCATION	TARGET USE	pH	FIELD MEASUREMENTS
CAC95	MCY241		SW-2	Aqueous	Clear	30' South of NPDES Outfall	Open Access		
CACE7	MCY233		HW-1	Aqueous	Clear, no odor	(b) (9)			
CACE8	MCY234		HW 2	Aqueous	[redacted]				
CACE9	MCY235		HW-3	Aqueous	[redacted]				
CAC90	MCY236		HW-4	Aqueous	[redacted]				
CAC94	MCY239		HW-20 (Duplicate of HW 2)	Aqueous	Duplicate of HW 2	(b) (9)			
CAC92	MCY237		AQ Blank	Aqueous					
CAC91	N/A		Sol Blank	Solid					



SOURCE: MAP SUPPLIED BY LAUREL PIPELINE CO.

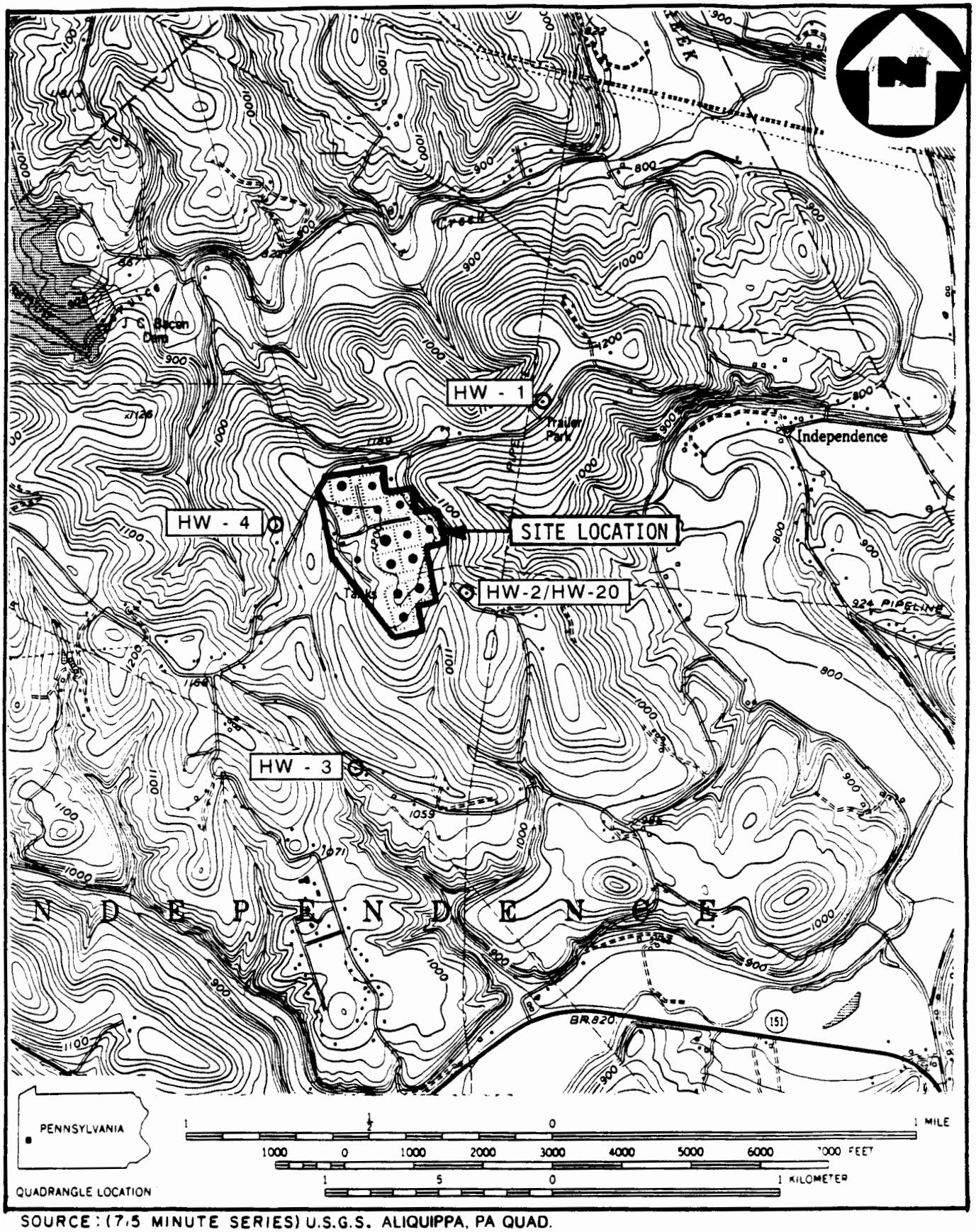
FIGURE 5.1

SAMPLE LOCATION MAP

LAUREL PIPELINE - ALIQUIPPA STATION, ALIQUIPPA, PA

(NO SCALE)

NUS CORPORATION



SOURCE: (7.5 MINUTE SERIES) U.S.G.S. ALIQUIPPA, PA QUAD.

HOME WELL SAMPLE LOCATIONS
LAUREL PIPELINE - ALIQUIPPA STATION, ALIQUIPPA, PA

SCALE 1: 24000

FIGURE 5.2

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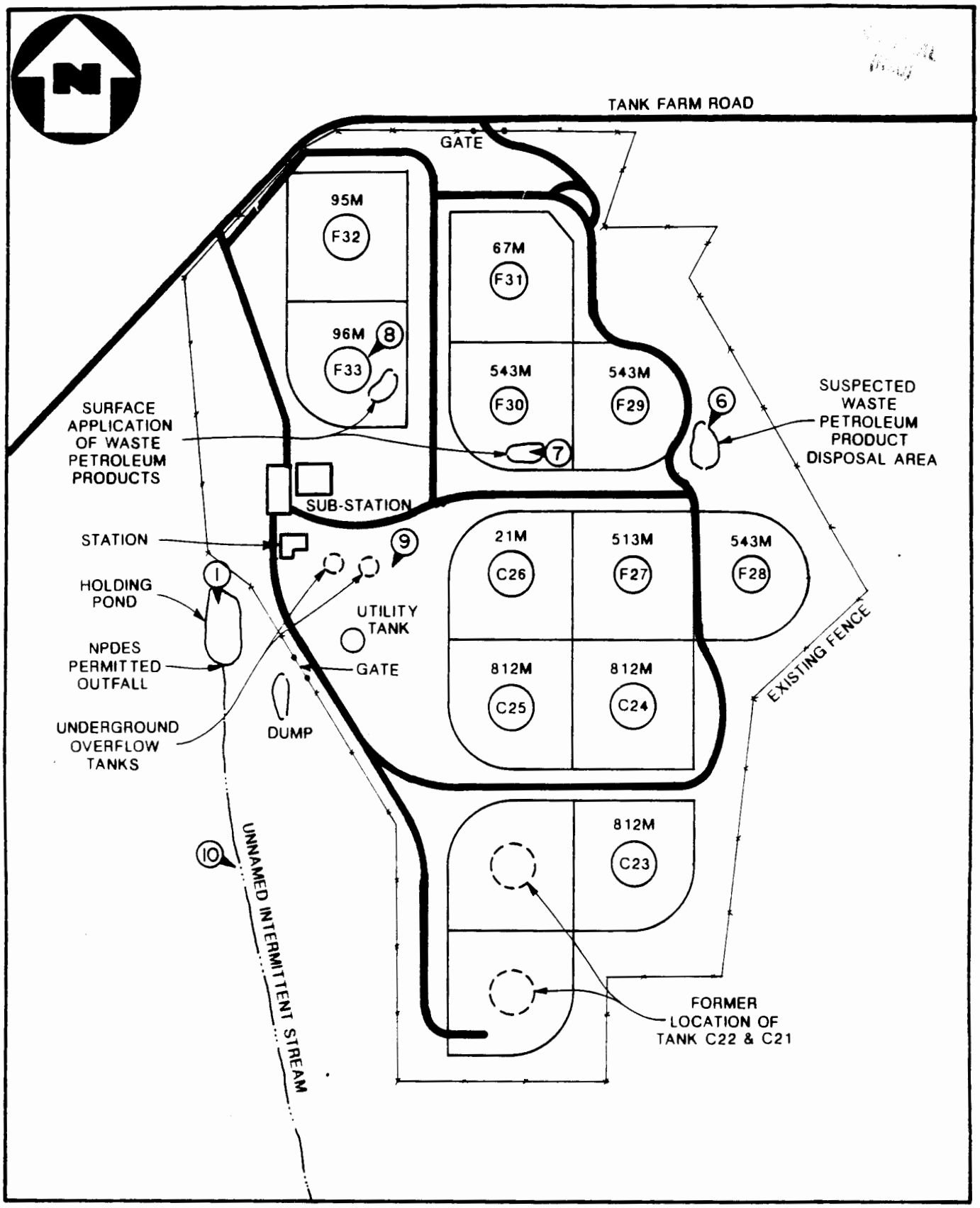
ORIGINAL (Red)

5.4 Site Observations

- The HNU background reading was 0.02. No readings above background were recorded.
- The radiation mini-alert was set on X1. No readings above background were recorded.
- An eight-feet-high chain-link fence with locked gates completely surrounded the site.
- It was observed that the underground tanks (Skimmer and Sump), drained on January 11, 1989 as requested by PA DER, had been placed in a tanker that was still on site at the time of the FIT 3 site visit.
- The tanks had been excavated and were sitting above ground waiting for disposal or salvage during the site visit.
- It was observed that sludge from the underground tanks was removed and placed in drums. These drums were stored on site on a concrete loading dock at the time of the FIT 3 site visit.
- Soil had been reworked in the area of removal.
- A slight oily sheen was noted on the collection pond.
- The intermittent stream, downstream of the outfall, was flowing.
- No evidence was visible of waste petroleum products in the suspected disposal area.



SOURCE: MAP SUPPLIED BY LAUREL PIPELINE CO.

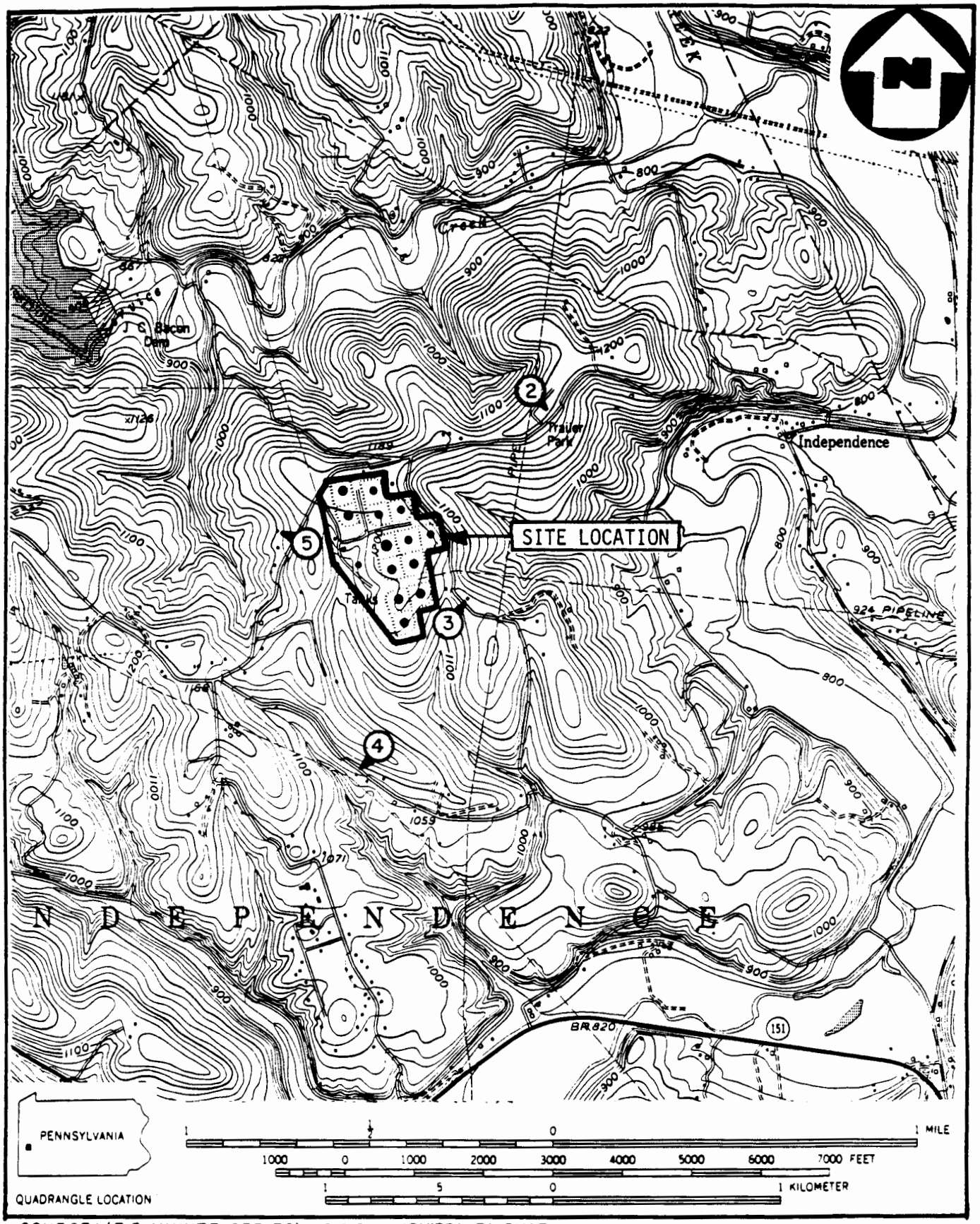
PHOTO LOCATION MAP

FIGURE 5.3

LAUREL PIPELINE - ALIQUIPPA STATION, ALIQUIPPA, PA

(NO SCALE)

NUS CORPORATION



SOURCE: (7.5 MINUTE SERIES) U.S.G.S. ALIQUIPPA, PA QUAD.

OFF-SITE PHOTO LOCATIONS

LAUREL PIPELINE - ALIQUIPPA STATION, ALIQUIPPA, PA

SCALE 1: 24000

FIGURE 5.4

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